

Name	ID#	Date
------	-----	------

Planning Sheet: BACHELOR OF ARTS in MATHEMATICS

(This major consists of 11 courses)

Mathematics major core requirements:

Term	Grade	Course #	AugCore	Title
_____	_____	MAT 145	NSM	Calculus 1 (Prereq: MPG 4)
_____	_____	MAT 146	NSM	Calculus 2 (Prereq: MAT 145)
_____	_____	MAT 245		Calculus 3 (Prereq: MAT 146)
_____	_____	MAT 246		Linear Algebra (Prereq: MAT 245 or 271)
_____	_____	MAT 271		Discrete Mathematical Structures (Prereq: Pass CT assessment or GST 100, MAT 146 or MAT 163 & MAT 145. CSC 160 recommended)
_____	_____	MAT 491		Mathematics Colloquium (0.0 credits, 4semesters in junior and senior years)

Select & complete one (1) of the following:

_____	_____	MAT 201		Communicating Mathematics (0.5 credits) (Prereq: MAT 146)
_____	_____	COM 111	HUM	Public Speaking
_____	_____	COM 115	HUM	Scientific and Technical Public Speaking
_____	_____	_____	_____	Other Approved Speaking Course: _____

Mathematics Elective Requirements: Four elective chosen from MAT courses numbered above 250, at least three of which are numbered above 300. Once must be a *Theoretical structures* course.

Select & complete one (1) course from the following *Theoretical Structure* electives

_____	_____	MAT 304	<input type="checkbox"/>	Graph Theory (Prereq: MAT 271 & COM 111, 112, 115 or MAT 201 & ENL 111, 112 or HON 111)
_____	_____	MAT 314	<input type="checkbox"/>	Abstract Algebra (Prereq: MAT 246 & MAT 271)
_____	_____	MAT 324	<input type="checkbox"/>	Analysis (Prereq: MAT 146, MAT 271; Also recommended: additional MAT course numbered 200 or higher)
_____	_____	_____	<input type="checkbox"/>	Other approved <i>Theoretical Structure</i> elective: _____

Select & complete three (3) courses from the following electives.

_____	_____	MAT 252	<input type="checkbox"/>	Exploring Geometry (Prereq: MAT 145)
_____	_____	MAT 287	<input type="checkbox"/>	History of Mathematics (Prereq: MAT 145)
_____	_____	MAT 304	<input type="checkbox"/>	Graph Theory (Prereq: MAT 271 & COM 111, 112, 115 or MAT 201 & ENL 111, 112 or HON 111)
_____	_____	MAT 314	<input type="checkbox"/>	Abstract Algebra (Prereq: MAT 246 & MAT 271)
_____	_____	MAT 324	<input type="checkbox"/>	Analysis (Prereq: MAT 146, MAT 271; Also recommended: additional MAT course numbered 200 or higher)
_____	_____	MAT/PHY 327	<input type="checkbox"/>	Special Functions of Mathematical Physics (Prereq: MAT 245 & PHY 122 or consent of instructor)
_____	_____	MAT 355	<input type="checkbox"/>	Numerical Mathematics and Computation (Prereq: MAT 146 & CSC 160)
_____	_____	MAT 363	<input type="checkbox"/>	Chaotic Dynamical Systems (Prereq: MAT 146 & MAT 246, 247 or 271)
_____	_____	MAT 369	<input type="checkbox"/>	Modeling & Differential Equations in Biology and Natural Sciences (Prereq: MAT 245)
_____	_____	MAT 373	<input type="checkbox"/>	Probability and Statistics I (Prereq: MAT 245; Also recommended MAT 271)
_____	_____	MAT 374	<input type="checkbox"/>	Probability and Statistics II (Prereq: MAT 373)
_____	_____	MAT 377	<input type="checkbox"/>	Operations Research (Prereq: MAT 246)
_____	_____	MAT 395/495	<input type="checkbox"/>	Topics/Advanced Topics in Mathematics (Prereq: at least two MAT courses above 200 & consent of instructor. For 495, an additional upper division MAT course)
_____	_____	_____	<input type="checkbox"/>	Other Approved Elective: _____

Notes:

- **GPA:** Grade of 2.0 or above is required in each course applicable to the Mathematics major.
- **Keystone:** Complete KEY 490 or a keystone through a different department as part of a second major or minor.
- **Abbreviation Key:** ML = Modern Language; SC = Signature Curriculum; EM = Engaging Minneapolis; AE = Augsburg Experience; KC = Senior Keystone Course; NSM = Natural Science & Mathematics - no lab; NSM-L = Natural Science & Mathematics-with lab; SBS = Social & Behavioral Science; FA = Fine Arts; HUM = Humanities; QA = Quantitative Applications; QF = Quantitative Foundations; QFA = Quantitative Foundations & Applications.

See back for information on graduation skills requirements

Planning Sheet: GRADUATION SKILLS REQUIREMENTS

These requirements were implemented for Fall 2008. Please talk with your faculty advisor for information.

Graduation skills, including the Quantitative Reasoning requirements, are completed as follows. Graduation skills in Critical Thinking, Writing, Speaking, and Quantitative Reasoning are required for graduation. Critical Thinking is embedded in all majors. Plans for completion of other graduation skills are determined by the major department. Consult your department chair or faculty advisor to select appropriate courses to meet the Quantitative Reasoning (QR) graduation skill. QR is satisfied by completing one (1) Quantitative Foundational course (QF) and one (1) Quantitative Application course (QA), or one (1) combined QFA course. The most current information on Graduation Skills can be found online at www.augsburg.edu/catalog/ and clicking on "Graduation Skills Catalog Supplement 2008 – 2010" near the bottom of the page.

Transfer students must consult an advisor about potential adjustments to their course requirements to fulfill each graduation skill.

Designated Major Course	GRADUATION SKILLS – Mathematics		Completed
Embedded in major	Writing Requirements TWO (2) Writing courses		
Embedded in major			
MAT 201, COM 111, COM 115 or other approved speaking course	Speaking One (1) Speaking course		
Designated Major Course	QUANTITATIVE REASONING		Completed
MAT 145 or MAT 146	Quantitative Foundations & Applications One (1) QFA course (Prereq: MPG3)	QFA course	
– OR –			
N/A	Quantitative Foundations and Quantitative Applications One (1) QF course (Prereq: MPG 3) and one (1) QA course	QF course	
N/A		QA course	

Graduation Tally Checklist

These requirements were implemented in April 2003 and remain in effect until further notice.

Requirement	Progress Towards Completion	
Cumulative Course Credits <ul style="list-style-type: none"> ▪ Minimum number of course credits needed for graduation = 32 ▪ At least 8 credits completed at Augsburg. ▪ 6 of last 8 credits completed in residence. ▪ Second degree – minimum of 8 credits completed in residence. 	Transfer Credits Earned	
	+ Aug. Credits Earned	
	= Total Credits Earned	
	# Credits Needed	
Grade Point Average (GPA) <ul style="list-style-type: none"> ▪ Minimum 2.0 GPA required in major, minor, & overall. ▪ Some majors require higher GPA. ▪ Latin Honors GPA requirements: <ul style="list-style-type: none"> ○ Summa cum laude: 3.9-4.0 ○ Magna cum laude: 3.80-3.89 ○ Cum laude: 3.60-3.79 	Cumulative GPA	
	Major 1 GPA	
	Major 2 GPA	
	Minor GPA	
Other Limits	Minimum/Maximum	Your Total
Overall maximum courses graded Pass/No Pass (P/N) <ul style="list-style-type: none"> ▪ Grade of 2.0 or above required to Pass and earn credit for course. ▪ Maximum of 2 of 6 credits P/N may be in major. 	Maximum of 6	
Major Courses graded Pass/No Pass (P/N)	Maximum of 2	
Latin Honors courses graded Pass/No Pass (P/N)	Maximum of 2	
Latin Honors traditionally graded courses	Minimum of 14	
Internships	Maximum of 4	
Independent/Directed Studies	Maximum of 2	

Sample Four-Year Plan (B.A.)

This is a possible plan for the Bachelor of Arts in Mathematics, though there are many configurations of courses. Students should complete MAT 145 and MAT 146 during the first year. Liberal Arts Foundation (LAF), Modern Language and other Core courses are more flexible. If you are planning a double major, teaching certification or a BS, revisions will be needed to this sample plan. Please talk with your Mathematics faculty advisor for more information.

Freshman Year

Fall Term (4)

MAT 145
CSC 160 (recommended)
Major/Minor or Elective
ENL 111
AugSem

Spring (4)

MAT 146
Major/Minor or Elective
LAF Course
REL 100
HPE 001

Sophomore Year

Fall Term (4)

MAT 245
MAT 271
Modern Language
LAF Course
HPE Skill

Spring (4)

MAT 246
Modern Language
LAF Course
REL 200
MAT 201 (0.5 credits)

Junior Year

Fall Term (4)

MAT Elective (Theoretical Structures)
LAF Course
LAF Course
Major/Minor or Elective
MAT 491 (non-credit)

Spring (4)

MAT Elective
LAF Course
LAF Course
Major/Minor or Elective
MAT 491 (non-credit)

Senior Year

Fall Term (4)

MAT Elective
Major/Minor or Elective
Major/Minor or Elective
Major/Minor or Elective
MAT 491 (non-credit)

Spring (4)

MAT Elective
Keystone Course
Major/Minor or Elective
Major/Minor or Elective
MAT 491 (non-credit)

Notes:

- Grade of 2.0 or above is required in each course applicable to the Mathematics major.
- At least two MAT courses number 250 or above must be completed at Augsburg.

What can I do with a Math major?

The following jobs are some of the positions that mathematics majors could pursue. Many require professional or graduate school.

Actuary	Mathematician
Auditor	Operations Manager
Consultant	Professor
Database Administrator	Programmer
Developer	Researcher
Economist	Statistician
Engineer	Systems Analyst
Financial Analyst	Teacher
Lawyer	Technical Writer
Loan Officer	Underwriter
Market Researcher	

For more information on possible careers in mathematics, please talk with your faculty advisor, and also the Center for Service, Work and Learning.

Mathematics

Department

The Mathematics Department is located in Science Hall 137. You may contact the following faculty for more information on the major requirements, and also check out the website at www.augsburg.edu/mathematics.

Matthew J Haines, Associate Professor
Department Chair
Phone: 612-330-1050
E-mail: haines@augsborg.edu

Pavel Bělík, Associate Professor
Phone: 612-330-1091
Email: belik@augsborg.edu

Tracy Bibelnieks, Associate Professor
Phone: 612-330-1335
Email: bibelnie@augsborg.edu

Suzanne Dorée, Associate Professor
Phone: 612-330-1059
Email: doree@augsborg.edu

Kenneth Kamisky, Professor
Phone: 612-330-1066
Email: kamisky@augsborg.edu

Sridevi Pudipeddi, Asst Professor
Phone: 612-330-1391
Email: pudipedd@augsborg.edu

Jody Sorenson, Associate Professor
Phone: 612-330-1064
Email: sorensj1@augsborg.edu

John Zobitz, Assistant Professor
Phone: 612-330-1065
Email: zobitz@augsborg.edu

**AUGSBURG
COLLEGE**